



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,941	09/29/2005	Frank Whittaker	59026(49371)-US	1675
21874	7590	07/17/2007	EXAMINER	
EDWARDS ANGELL PALMER & DODGE LLP			RIVELL, JOHN A	
P.O. BOX 55874			ART UNIT	PAPER NUMBER
BOSTON, MA 02205			3753.	
MAIL DATE		DELIVERY MODE		
07/17/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/534,941	WHITTAKER, FRANK
	Examiner	Art Unit
	John Rivell	3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 5/13/05 (application).
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-18 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 13 May 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 05132005.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application
 6) Other: _____.

Claims 1-18, as preliminarily amended May 13, 2005, remain pending.

So as to be consistent with applicant, the term "upstream" refers to movement against the direction of fluid flow, towards the inlet and/or on the side of an element facing the inlet whereas the term "outlet" refers to movement in the direction of fluid flow, towards the outlet and/or on the side of the element facing the outlet.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6, 7 and 14-17 are rejected under 35 U.S.C. §102 (b) as being anticipated by Galloway.

The patent to Galloway discloses, in figure 2 for example, a "valve assembly comprising: a) a valve body (24) defining an axial bore and having opposed upstream (inlet) and downstream (outlet) end portions (30, 26, respectively), the upstream end portion (30) including a fluid inlet (connected to inlet conduit 32), the downstream end portion (26) including a fluid outlet (connected to outlet conduit 10a) and defining an sealing face (70) positioned adjacent to the axial bore, the valve body (24) further including at least one flow passage for facilitating fluid communication between the fluid inlet (30) and the fluid outlet (26); b) an elongated piston member (generally at 52) disposed at least partially within the axial bore of the valve body (24) and having opposed upstream (inlet facing) and downstream (outlet facing) ends, the piston member (52) mounted for movement between an open position and a closed (shown)

position, wherein the downstream end (at seal 68) of the piston member (52) is spaced from the interior sealing face (70) of the valve body (24) in the open position to permit fluid flow through the valve body (24), and the downstream end (at seal 68) of the piston member (52) engages the interior sealing face (70) of valve body (24) to suspend the flow of fluid through the valve body (24) in the closed position (as shown); and c) biasing means (at spring 40) operatively associated with the piston member (52) for urging the piston member (52) to the closed (shown) position when a force impart(ed) by the biasing means (40) on the piston member (52) exceeds an opposing pressure imparted on the piston member (52, on face 80) by fluid within the flow passage" as recited.

Regarding claim 2, in Galloway, "a port (60) is formed in the valve body (24), and the port extends radially from an exterior of the valve body (24) to the axial bore (within body 24) allowing gas to be exhausted therefrom" as recited.

Regarding claim 3, in Galloway, "the biasing means includes a spring element" at 40, as recited.

Regarding claim 4, in Galloway, "the biasing means is a helical spring" at 40, as recited.

Regarding claim 6, in Galloway, "the downstream (outlet facing) end of the piston member (52) includes a sealing ring (68) for engagement with the interior sealing surface (70) of the valve body (24)" as recited.

Regarding claim 7, in Galloway, "the biasing means (40) is disposed within the axial bore of the valve body (24) adjacent to the upstream (inlet facing) end of the piston member (52)" as recited.

Regarding claim 14 the patent to Galloway discloses a "valve assembly comprising: a) a valve body (24) having upstream (inlet, at 30) and downstream (outlet, at 26) end portions and defining an axial core (the space within body 24) and an axis for the valve assembly, the valve body (24) further defining flow passages (via ports 56 and 58) extending therethrough between the upstream and downstream end portions, the downstream end portion (26) defining a valve seating surface (70) adjacent to the axial core; b) a piston (52) mounted for axial movement within the axial core between an open and a closed (shown) position; and c) a biasing element (spring 40) disposed within the axial core and operatively associated with the piston (52), the biasing element (40) for urging the piston (52) in the closed position, the piston (52) is engaged with the seating surface (70) of the valve body in the closed position so as to prevent fluid flow through the valve, fluid pressure urging the piston (52, by acting on surface 80) in the upstream direction away from the seating surface (70) of the valve body (24) to the open position" as recited.

Regarding claim 15, in Galloway, "a port (60) is formed in the valve body (24), and the port (60) extends radially from an exterior of the valve body (24) to the axial bore (within body 24) allowing gas to be exhausted therefrom" as recited.

Regarding claim 16, in Galloway, "the biasing element is a metal spring" at 40, as recited.

Regarding claim 17, in Galloway, "the biasing element is a helical spring" at 40 as recited.

Claims 1, 3, 4, 6, 7 14, 16 and 17 are further, and claims 8, 10, 11 and 13 are rejected under 35 U.S.C. §102 (b) as being anticipated by Yonezawa.

The patent to Yonezawa discloses, in figures 3-5 for example, a "valve assembly comprising: a) a valve body (4) defining an axial bore and having opposed upstream (inlet) and downstream (outlet) end portions (7, 8, respectively), the upstream end portion (7) including a fluid inlet, the downstream end portion (8) including a fluid outlet and defining an sealing face (31, 32) positioned adjacent to the axial bore, the valve body (4) further including at least one flow passage (there are two shown at 33, fig. 4) for facilitating fluid communication between the fluid inlet (7) and the fluid outlet (8); b) an elongated piston member (generally at check valve body 19) disposed at least partially within the axial bore of the valve body (4) and having opposed upstream (inlet facing) and downstream (outlet facing) ends, the piston member (19) mounted for movement between an open position (fig. 5) and a closed position (fig. 3), wherein the downstream end (at seal 25) of the piston member (19) is spaced from the interior sealing face (31, 32) of the valve body (4) in the open position (fig. 5) to permit fluid flow through the valve body (4), and the downstream end (at seal 25) of the piston member (19) engages the interior sealing face (at 32) of valve body (4) to suspend the flow of fluid through the valve body (4) in the closed position (fig. 3); and c) biasing means (at spring 20) operatively associated with the piston member (19) for urging the piston member (19) to the closed position (fig. 3) when a force impart(ed) by the biasing means (20) on the piston member (19) exceeds an opposing pressure imparted on the piston member (19, on radial wall 27) by fluid within the flow passage" as recited.

Regarding claim 3, in Yonezawa, "the biasing means includes a spring element" at 20, as recited.

Regarding claim 4, in Yonezawa, "the biasing means is a helical spring" at 20, as recited.

Regarding claim 6, in Yonezawa, "the downstream (outlet facing) end of the piston member (19) includes a sealing ring (25) for engagement with the interior sealing surface (32) of the valve body (4)" as recited.

Regarding claim 7, in Yonezawa, "the biasing means (20) is disposed within the axial bore of the valve body (4) adjacent to the upstream (inlet facing) end of the piston member (19)" as recited.

Regarding claim 8, Yonezawa discloses, in figures 3-5 for example, a "valve assembly comprising: a) a valve body (4) defining an axial bore and having opposed upstream (inlet, at 7) and downstream (outlet, at 8) end portions, the upstream end portion (7) including a fluid inlet, the downstream end portion (at 8) including a fluid outlet, the valve body (4) further defining flow passages (two, at 33, see fig. 4) positioned radially outward of the axial bore and extending axially between the fluid inlet (7) and the fluid outlet (8); b) an elongated piston member (19) disposed at least partially within the axial bore of the valve body (4) and having opposed upstream (inlet facing) and downstream (outlet facing) ends, the piston member (19) mounted for movement between an open position (fig. 5) and a closed position (fig. 4); c) biasing means (at spring 20) operatively associated with the piston member (19) for urging the piston member (19) to the closed position when a force impart(ed) by the biasing means (20) on the piston member (19) exceeds an opposing pressure imparted on the piston member (19) by fluid within the flow passage (acting on radial wall 27); and d) a retainer element (read at element 13, 16) engage(d) with the downstream end portion (8) of the

valve body (4) and defining an interior sealing face (at 32) adjacent to the axial bore, the downstream end of the piston member (19) is spaced from the interior sealing face (32) of the retainer member (16) in the open position (fig. 5) to permit fluid flow through the valve body (4), the downstream end of the piston member (19) engages the interior sealing face (32) of retainer member (16) to suspend the flow of fluid through the valve body (4) in the closed position (fig. 3)" as recited.

Regarding claim 10, in Yonezawa, "the biasing means includes a spring element" at 20 as recited.

Regarding claim 11, in Yonezawa, "the biasing means is a helical spring" at 20 as recited.

Regarding claim 13, in Yonezawa, "the downstream end of the piston member (19) includes a sealing ring (25) adapted and configured for engagement with the interior sealing surface (32) of the retainer element (16)" as recited.

Regarding claim 14 the patent to Yonezawa discloses a "valve assembly comprising: a) a valve body (4) having upstream (inlet, at 7) and downstream (outlet, at 8) end portions and defining an axial core and an axis for the valve assembly, the valve body (4) further defining flow passages (ports 33) extending therethrough between the upstream (7) and downstream (8) end portions, the downstream end portion (8) defining a valve seating surface (32) adjacent to the axial core; b) a piston (19) mounted for axial movement within the axial core between an open (fig. 5) and a closed (fig. 3) position; and c) a biasing element (spring 20) disposed within the axial core and operatively associated with the piston (19), the biasing element (20) for urging the piston (19) in the closed position, the piston (19) is engaged with the seating surface (32) of the valve

body (at 16) in the closed position (fig. 3) so as to prevent fluid flow through the valve, fluid pressure urging the piston (19, by acting on radial wall 27) in the upstream direction away from the seating surface (32) of the valve body (at 16) to the open position (fig. 5)" as recited.

Regarding claim 16, in Yonezawa, "the biasing element is a metal spring" at 20, as recited.

Regarding claim 17, in Yonezawa, "the biasing element is a helical spring" at 20 as recited.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Galloway in view of Ottestad.

The patent to Galloway discloses all the claimed features with the exception of having "the biasing means (solely be) a gas contained within the axial bore and compressed when the piston member is in the open position".

The patent to Ottestad discloses that it is known in the art to employ compressed gas in a chamber 44 solely utilized for the purpose of biasing a fluid pressure operated valve, of a type in which the downstream end of the valve head is located away from the seat against the direction of flow to open the valve, to a closed position in the absence of a mechanical spring.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Galloway fluid pressure as a sole biasing

means to bias the valve closed for the purpose of biasing the valve to a closed position in the absence of a mechanical spring as recognized by Ottestad.

Claims 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonezawa in view of Ottestad.

The patent to Yonezawa discloses all the claimed features with the exception of having "the biasing means (solely be) a gas contained within the axial bore and compressed when the piston member is in the open position".

The patent to Ottestad discloses that it is known in the art to employ compressed gas in a chamber 44 solely utilized for the purpose of biasing a fluid pressure operated valve, of a type in which the downstream end of the valve head is located away from the seat against the direction of flow to open the valve, to a closed position in the absence of a mechanical spring.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Yonezawa fluid pressure as a sole biasing means to bias the valve closed for the purpose of biasing the valve to a closed position in the absence of a mechanical spring as recognized by Ottestad.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yonezawa in view of Galloway.

The patent to Yonezawa discloses all the claimed features with the exception of having "a port is formed in the valve body (extending) radially from an exterior of the valve body to the axial bore allowing gas to be exhausted therefrom".

The patent to Galloway discloses that it is known in the art to employ a radial port at 60, fluidly communicating and otherwise sealed off spring chamber with atmosphere for the purpose of preventing pressure buildup in the otherwise sealed off chamber effecting valve performance.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Yonezawa a sealed off spring chamber to eliminate any effects the fluid controlled may have on the spring material and to vent that spring chamber by a radial port connected to atmosphere to prevent the otherwise sealed off chamber from effecting valve performance as recognized by Galloway.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (571) 272-4918. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John Rivell
Primary Examiner
Art Unit 3753

j.r.